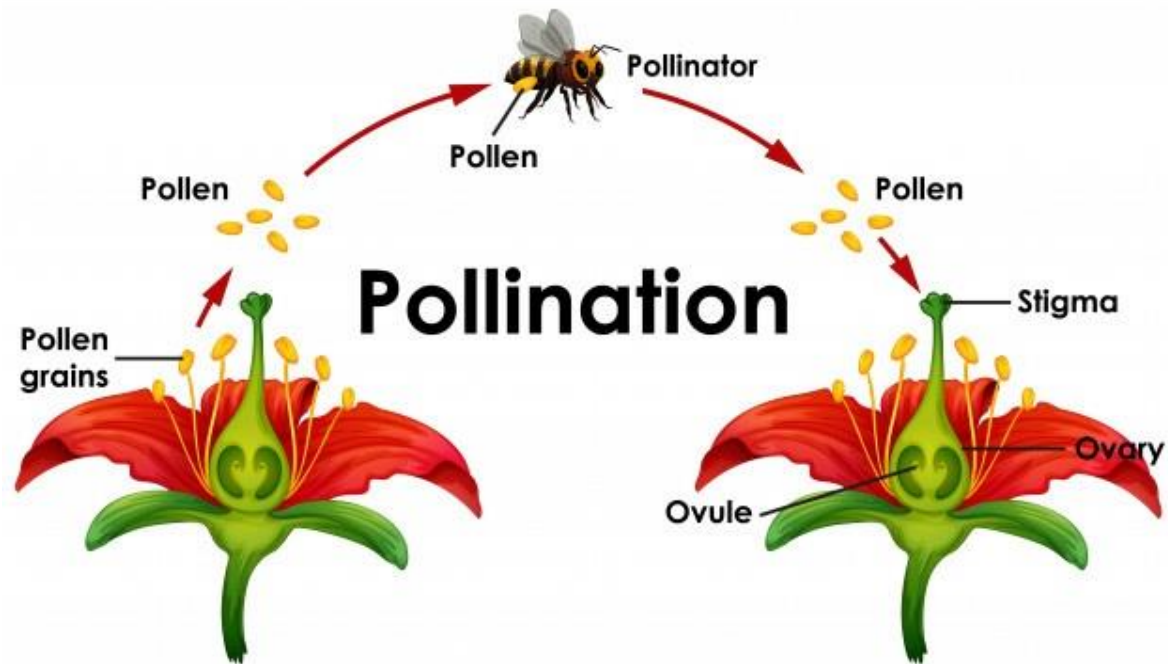


Gardening for pollinators



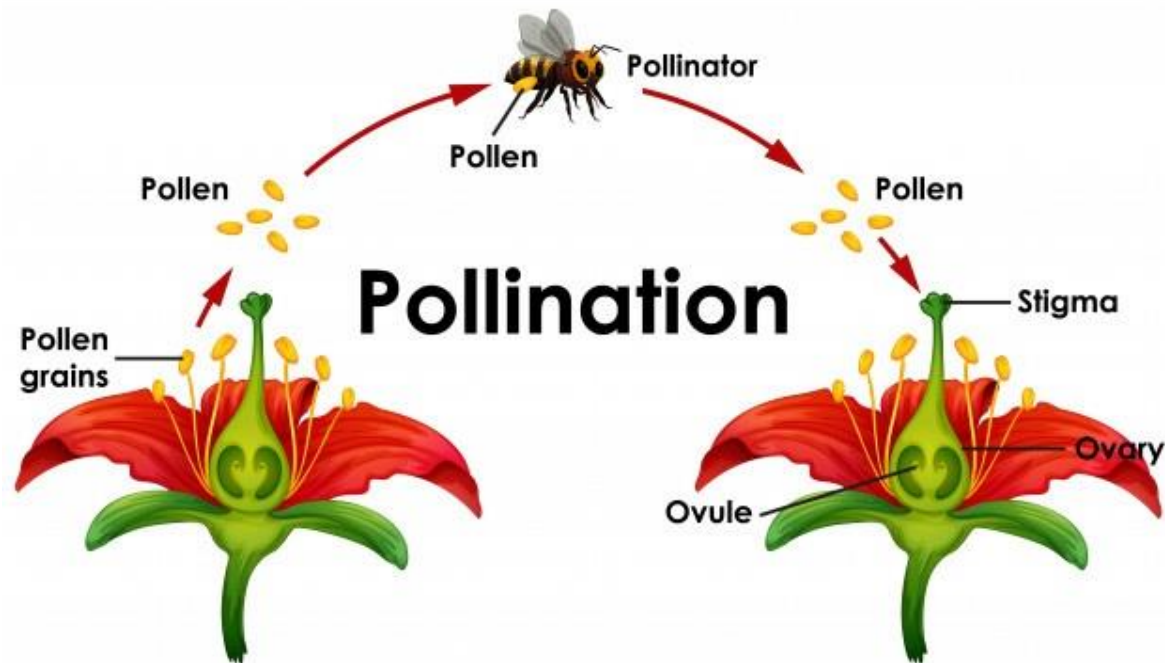
Nick Dorian and Jessie Thuma
Tufts Pollinator Initiative, April 2020

What is a pollinator?



What is a pollinator?

- An animal that moves pollen from male flowers to female flowers (this allows plants to make seeds and reproduce)



What kinds of pollinators live in Massachusetts?

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Bees

- Our most important pollinators, 250+ species
- Can use complex or tubular flowers
- Prefer blue and yellow
- Need flowers throughout year (April through October) because offspring eat pollen and nectar
- Solitary bees build nests in ground or tree trunks/plant stems

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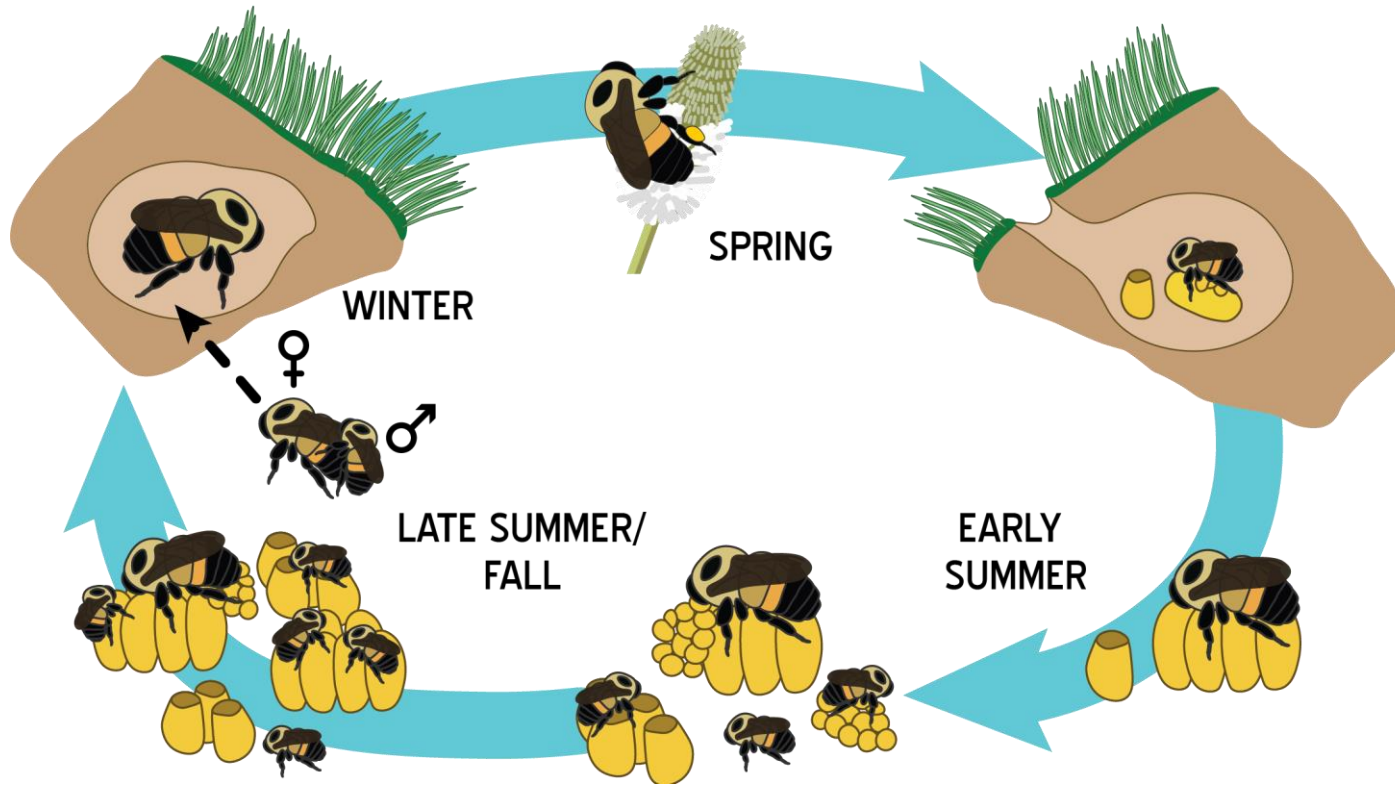


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- Bumble bees build nests below ground and queens overwinter in leaves/compost piles

**Can you think of any pollinators
that are NOT bees?**

What kinds of pollinators live in Massachusetts?

Hover flies

- Hundreds of species, all important pollinators of crops like carrots
- Prefer “open” easy access nectar (think: flat flowers, not tubular)
- Need flowers in summer and fall (June through October) as nectar source for adults
- Offspring eat aphids (= natural garden pest control)



What kinds of pollinators live in Massachusetts?



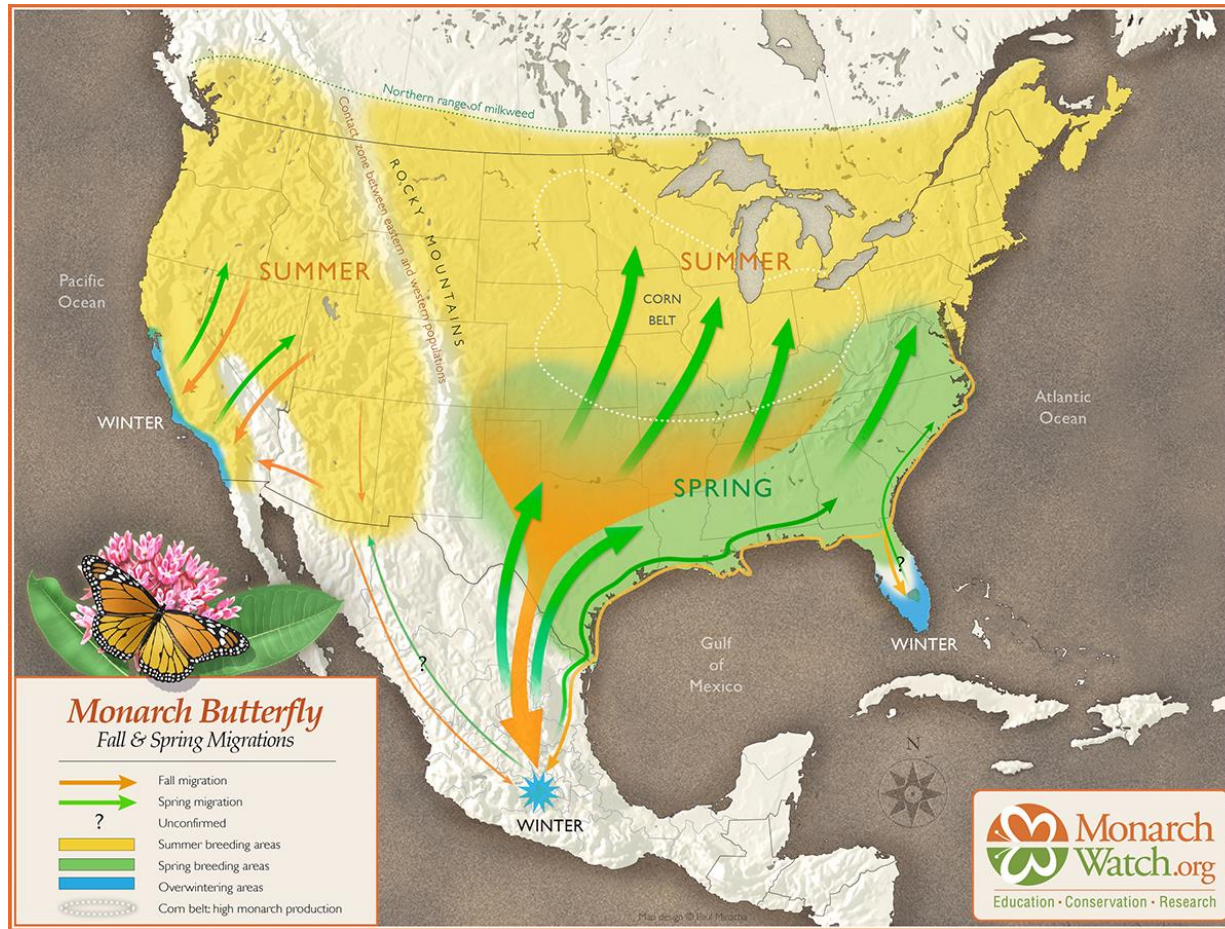
Butterflies

- Not the best pollinators, but still important!
- Prefer purple, pink tubular flowers
- Caterpillars eat particular *host plants*
- Eggs --> adults overwinter in leaf litter
- Adults need nectar to fuel flight, sometimes really long migrations

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What kinds of pollinators live in Massachusetts?

Hummingbirds

- One species, Ruby-throated Hummingbird
- Prefers tubular flowers (Bee Balm, Cardinal Flower)
- Migratory, needs flowers from April through October to fuel adults
- Need protein-rich insects in garden to feed offspring



What kinds of pollinators live in Massachusetts?



Hawkmoths

- Look like hummingbirds, but actually moths
- Adults like fragrant, tubular flowers for nectar
- Larvae eat leaves of host plants (dogbane, honeysuckle, blueberry, snowberry)
- Overwinter as pupae in leaf litter

If you build it, will they come?

- Variety of plants: size, color, shape of flower, bloom time
- Provide food and shelter throughout life cycle of pollinator
- Low maintenance and disturbance
- Pesticide-free!

Planning your garden – think like a pollinator.

Go Native. Pollinators are "best" adapted to local, native plants, which often need less water than ornamentals.

Bee Bountiful. Plant big patches of each plant species for better foraging efficiency.

Bee Showy. Flowers should bloom in your garden throughout the growing season. Plant willow, currant, and Oregon grape for spring and aster, rabbit brush and goldenrod for fall flowers.

Bee Patient. It takes time for native plants to grow and for pollinators to find your garden, especially if you live far from wild lands.

Bee Gentle. Most bees will avoid stinging and use that behavior only in self-defense. Male bees do not sting.

Bee Chemical Free. Pesticides and herbicides kill pollinators.

Bee Sunny. Provide areas with sunny, bare soil that's dry and well-drained, preferably with south-facing slopes.

Bee Friendly. Create pollinator-friendly gardens both at home, at schools and in public parks. Help people learn more about pollinators and native plants.

Bee Aware. Observe pollinators when you walk outside in nature. Notice which flowers attract bumblebees or solitary bees, and which attract butterflies.

Bee a little messy. Most of our native bee species (70%) nest underground so avoid using weed cloth or heavy mulch.

Bee Diverse. Plant a diversity of flowering species with abundant pollen and nectar and specific plants for feeding butterfly and moth caterpillars.







Our faves for pollinators



Derek Ramsey

Golden Alexander's, May



Kurt Stueber

Foxglove beardtongue, June



Homer Edward Price

Milkweeds, June-August



Brenda Timmermans

Wild Beebalm, July



Cyndy Simms Parr

Mountain Mint, July



Chipmunk 1

New England Aster, Sept.

Some good choices

(* indicates butterfly host plant)

Spring	Summer	Fall
Redbud*	White turtlehead*	New York Ironweed
Serviceberry*	Purple coneflower	Sneezeweed
American plum*	Lavender	Blazingstar
Black cherry*	Mountain mint	New England Aster*
Wild lupine*	Bee balm	Smooth Blue Aster*
Foxglove beardtounge	Sunflower*	Canada goldenrod*
Pussy willow*	Summersweet	Blue vervain*
Golden Alexanders*	Butterflyweed*	Cardinal flower

Your project

- Design a pollinator garden for your own backyard!